



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/512,629	02/25/2000	Henrik Nyberg	040000-593	7131
27045	7590	01/14/2004		
ERICSSON INC. 6300 LEGACY DRIVE M/S EVW2-C-2 PLANO, TX 75024			EXAMINER FAN, CHIEH M	
			ART UNIT 2634	PAPER NUMBER

DATE MAILED: 01/14/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/512,629

Applicant(s)

NYBERG ET AL.

Examiner

Chieh M Fan

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-13 and 15-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-8 is/are rejected.
- 7) ☒ Claim(s) 9-13,15-30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The proposed drawing corrections received on 11/5/03. These drawings are approved.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 3-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 3, it is not clear what the limitation "the frequency hopping sequence" in lines 1-2 is referred to. The term "frequency hopping sequence(s)" has been recited in numerous places in claim 1 ("a plurality of frequency hopping sequences" in line 3, "a set of predefined frequency hopping sequences" in lines 5-6, "one of said plurality of allocated frequency hopping sequences" in line 8). It is not clear which frequency hopping sequence mentioned in claim 1 is referred to the claimed limitation of claim 3.

Art Unit: 2634

Regarding claim 4, claim 4 also recites "the frequency hopping sequence" in lines 1-2.

Regarding claim 6, claim 6 also recites "the frequency hopping sequence" in lines 1-2.

Claim 7 recites the limitation "said step of selecting the allocated frequency hopping sequence for a connection associated with the cell, in accordance with a frequency allocation strategy" in lines 1-3. There is insufficient antecedent basis for this limitation in the claim.

Claim 8 recites the limitation "said step of selecting the allocated frequency hopping sequence for a connection associated with the cell, in accordance with a frequency allocation strategy" in lines 1-3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Sano (JP 10-65648).

Regarding claim 1, Sano teaches a method for assigning a frequency hopping sequence to a mobile unit in a telecommunication network comprising the steps of: allocating a plurality of frequency hopping sequences to a cell within the network as a function of a level of interaction between said plurality of frequency hopping sequences selected from a set of predefined frequency hopping sequences, wherein said level of interaction is a function of an intrinsic collision rate between pairs of said predefined frequency hopping sequences; and selecting one of said plurality of allocated frequency hopping sequences for a connection associated with said mobile unit, in accordance with a frequency hopping allocation strategy (see the attached English abstract, especially the SOLUTION portion, note that the mutual correlation of between two hopping sequences is a function of intrinsic collision rate of the two hopping sequences).

Regarding claim 7, it is inherent that the frequency hopping sequence needs to be allocated at set-up; otherwise the communication connection cannot be established.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sano (JP 10-65648) in view of Noll Barreto et al. (U.S. Patent No. 6,223,048).

Sano teaches the claimed invention (see the rationale applied to claim 1 above), but does not particularly teach that the frequency hopping sequences are generated as a function a hopping sequence number (HSN), a Mobile Allocation Index Offset (MAIO) value and a frame number (FN) shift. Noll Barreto et al. teaches that, from the ETSI Standard GSM 05.02, version 5.1.0, a frequency hopping sequence is generated based on HSN, MAIO and FN (col. 1, lines 21-54). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to generate a frequency hopping sequence based on HSN, MAIO and FN so as to conform to the GSM standards.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sano (JP 10-65648) in view of Haartsen (U.S. Patent No. 6,009,332, provided by the applicants in IDS filed 11/28/00, PTO Paper #4).

Sano teaches the claimed invention (see the rationale applied to claim 1 above), but does not particularly teach assigning the allocated frequency hopping to an existing connection. Haartsen also teaches a handover to a better frequency hopping sequence when the link quality deteriorates (col. 11, lines 24-26). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to assign the allocated frequency hopping to an existing connection so as to improve the link quality.

Allowable Subject Matter

9. Claims 9-13, 15-30 are allowed.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kostic et al. (U.S. Patent No. 6,549,784), Bird et al. (U.S. Patent No. 6,128,327), Lee et al. (U.S. Patent No. 5,887,022).


11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chieh M Fan whose telephone number is (703) 305-0198. The examiner can normally be reached on Monday-Friday 8:00AM-5:30PM, Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (703) 305-4714. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.


Chieh M Fan
Primary Examiner
Art Unit 2634

cmf
January 10, 2004